



**XXIV<sup>th</sup> World  
Road Congress  
Mexico 2011**  
Mexico City 2011.

# Road Funding in PIARC Countries

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1. What is “Road Funding” ?

What is  
“Road Funding” ?



## 1. What is “Road Funding” ?

### From “PIARC Terminology”

#### “funding”

##### Definition:

Provision of financial **resources by the public sector**, aid donors, users (**taxpayers, and toll payers**) and/or other beneficiaries for an investment project.



# 1. What is “Road Funding” ?

## Notes for the definition of funding :

1. Funding is provided by a government, a similar public-sector body, aid donors and/or users (taxpayers, and toll payers) in order to procure an infrastructure or a service. Other beneficiaries may also contribute to funding if they derive value from the investment (for example, a land owner contributing to the cost of building a new road in the expectation that the value of the land will increase when the new road is open).

2. For Government-funded projects **there is not usually an expectation that the funding will be repaid** as there would be an expected benefit to taxpayers or other beneficiaries. Even when there is an expectation, usually it will be repaid after many, many years with no or little interest.

3. In the specific case of a road procured as a PPP, the private partner having contributed to the construction and operation of the road should ensure sufficient funding from the public sector and/or users for his contribution to be repaid.



## 1. What is “Road Funding” ?

### From “PIARC Terminology”

#### “financing”

##### Definition:

**Provision of the private capital** to cover the cost of an investment project.



## 2. Why are the funds necessary?

# **The road is the most basic infrastructure**

that provides needed transport services to support various human activities.

including economic and cultural activities, as well as healthcare and educational services and it has critical, crucial facility when fighting against poverty.

The flow of people and goods will not be complete in the absence of roads even when other transport facilities exist.



## 2. Why are the funds necessary?

The construction and maintenance of roads require long period of time.

Those require

**a guarantee that  
large amount of funds  
over a long period can be  
secured.**





## 2. Why are the funds necessary?

Therefore,

**countries** all over the world  
have **developed their own way**  
to efficiently manage **their funds for**  
**roads.**



# Who pays the funds?

General public and  
General business companies  
pay **GENERAL TAX**

(In most countries, part of general taxes are used for road funding.)

International aid programs  
provide **DONATION or SUBSIDIES**

(For many developing countries and some developed countries, those financial assists play important or supplementary roles.)



### 3. Who pays the funds?

And

# Direct beneficiaries from roads

Pay **GENERAL TAX**  
**DEDICATED TAX**  
**TOLL**  
**CHARGES** for road usage



### 3. Who pays the funds?

Those beneficiaries are

sometimes

Developers

Land owners

But Mostly

Road users mainly vehicle users

**Vehicle purchasers**

**Vehicle owners**

**Vehicle users**



## 4. Results of our surveys

To better understand who funds road services and how.

The **Technical Committee** carried out a **questionnaire survey** of Strategic Theme A members in April 2010 .

Completed questionnaires were received **from 22 countries.**



## 4. Results of our surveys

Those **22 countries** are

Australia, Austria, Canada, Czech Republic,  
Denmark, Finland, France, Hungary, Iran,  
Italy, Ivory Coast, Japan, Malaysia, Mexico,  
Morocco, Singapore, Slovenia, South Africa,  
Spain, Sweden, Switzerland, United Kingdom



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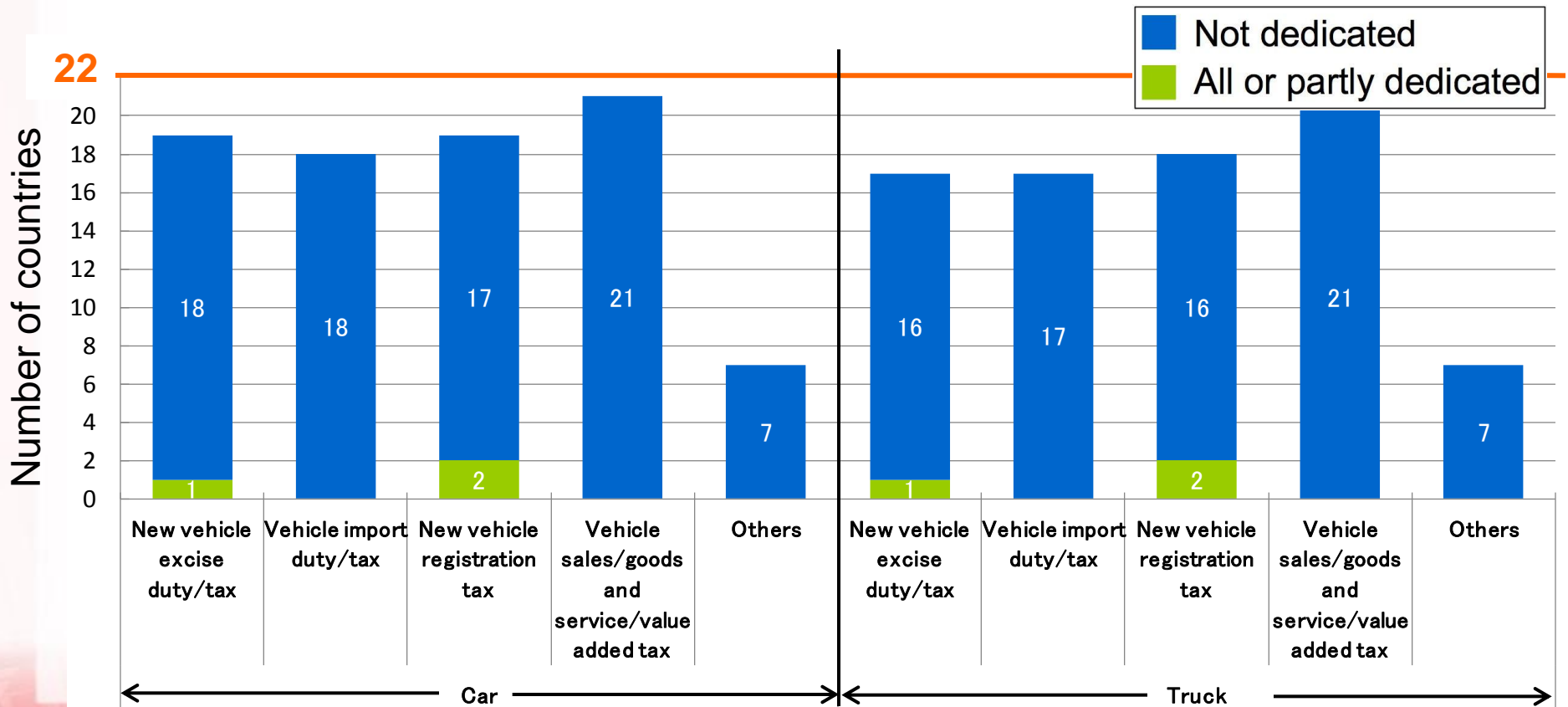
## 4. Results of our surveys

# Levy on Vehicle Acquisition



## 4. Results of our surveys

### Vehicle acquisition payments of 22 countries





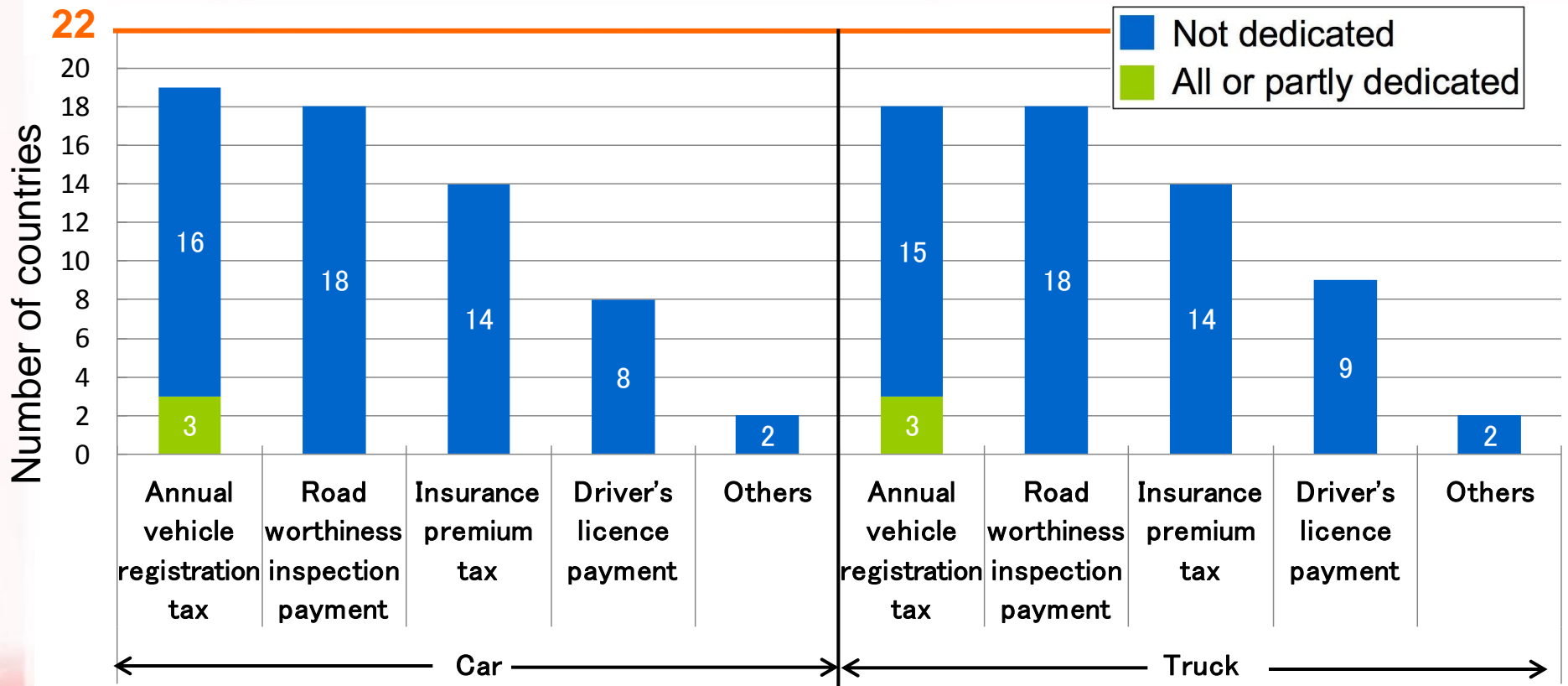


# Levy on Vehicle Ownership



## 4. Results of our surveys

### Vehicle ownership payments of 22 countries





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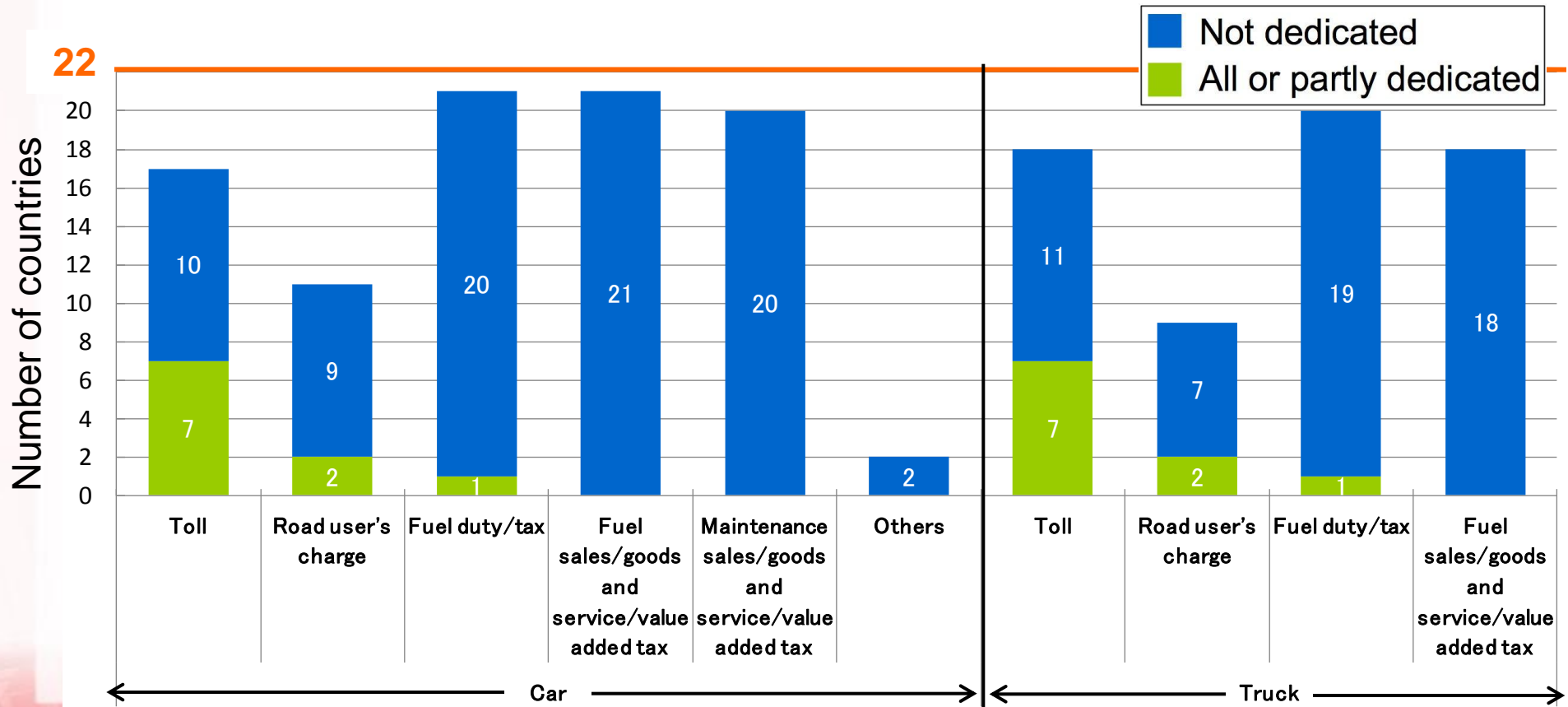
## 4. Results of our surveys

# Levy on Vehicle Usage



## 4. Results of our surveys

### Vehicle usage payments of 22 countries





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## 5. Source of Road Financing

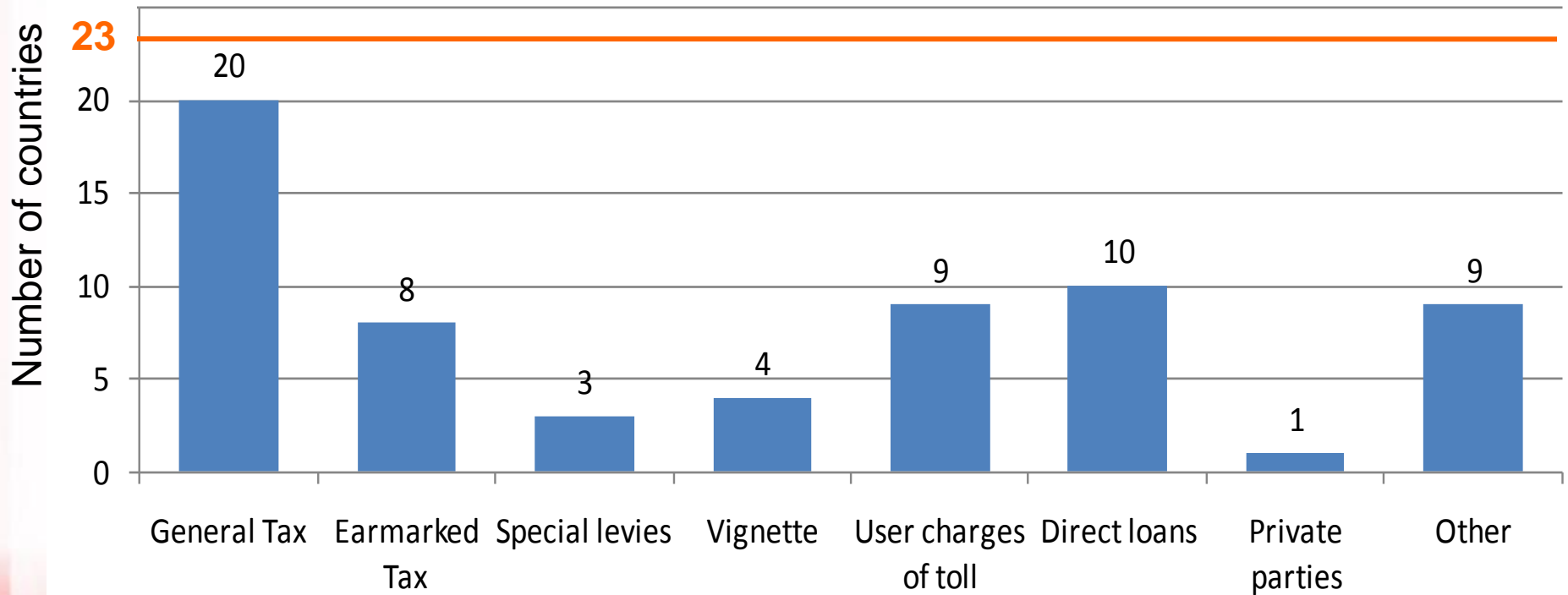
# Source of Road Financing



## 5. Source of Road Financing

### Sources of road financing relied upon by 23 countries

(Source: PIARCTC C1.2 Report 2007 )

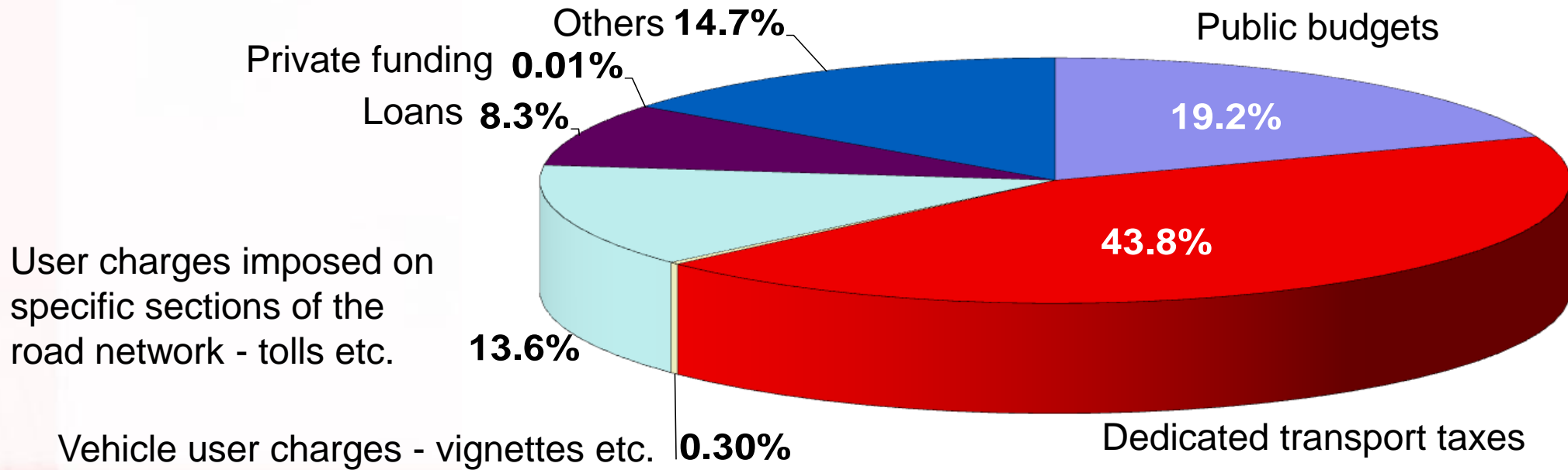




## 5. Source of Road Financing

### Breakdown of road financing sources

(Source: modified data from PIARCTC C1.2 Report 2007  
(of 23 countries including Japan and USA))





## 5. Source of Road Financing

Among those,

**Dedicated tax** on road beneficiaries  
especially on vehicle users

And **tolls** or **charges** on road users

are **specific sources** for road funding





## 5. Source of Road Financing

- Road management funding is **still largely based on general revenue.**
- But not only general revenue but also **other special source** for road investments have been adopted.
- Among those, major two types of revenue sources are adopted in accordance with the **beneficiary pay principle.**
- The first is **vehicle-related taxes** such as fuel tax, vehicle ownership tax and so on.
- And the second is **toll-charging** wherein levies are collected from vehicles using the highways.



# Dedicated tax

It has been a kind of user-pay tax or beneficiary-pay tax.



### 1) Merits

-**Fairness** (Road beneficiaries pay costs in accordance with the benefits)

-**Stability** (Ensure stable budgets every year and may avoid arbitrary sudden change)

-**Reasonability** (Easy for tax payers to understand the money funded by road beneficiaries goes to road investments)

### 2) Demerit

-Fiscal policies might **lose its flexibility and efficiency.**



## Some Histories of Road Dedicated Tax (1)

	United Kingdom	France	Germany
Name	-Road Improvement Fund(RIF) -Road fund(RF)	-Road special investment fund(FSIR) -Tax on axles(TSVR)	Tax on mineral oil
Item	-RIF: Fuel, Ownership, Acquisition -RF: Ownership, Acquisition	-FSIR: Fuel -TSVR: Ownership	Fuel
Started	-RIF: 1909 -RF: 1920	-FSIR:1951 -TSVR:1968	1955
<b>Abolishment of dedicated tax</b>	-RIF: <b>1920</b> -RF: <b>1955</b>	-FSIR: <b>1981</b>	
<b>Continuity of dedicated tax</b>		-TSVR: <b>continuing</b>	<b>continuing</b>



## Some Histories of Road Dedicated Tax (2)

	Japan	USA	Korea
Name	Specific funding source system for road works	Highway Trust Fund (HTF)	Special account for transportation facilities
Item	Fuel, Ownership, Acquisition	Fuel	Acquisition
Started	1953	1956	1993
<b>Abolishment of dedicated tax</b>	<b>2009</b>		
<b>Continuity of dedicated tax</b>		<b>Continuing</b>	<b>Continuing</b>



## **Second-Generation Road Fund\* in Africa**

\*Key features: the separated fund, financed from a user charge (ex. fuel taxes), independent boards

<b>Country</b>	BENNIN	BURUNDI	CAMEROON	CAPE VERDE	CONGO	IVORY COAST
<b>Year established</b>	<b>1997</b>	<b>2001</b>	<b>1998</b>	<b>2005</b>	<b>2005</b>	<b>2001</b>
<b>Country</b>	DJIBOUTI	ETHIOPIA	GABON	GHANA	GUINEA	BISAU GUINEA
<b>Year established</b>	<b>1999</b>	<b>1997</b>	<b>1997</b>	<b>1997</b>	<b>2000</b>	<b>1997</b>
<b>Country</b>	KENYA	LESOTHO	MADAGASCAR	MALAWI	MALI	MOZAMBIQUE
<b>Year established</b>	<b>1999</b>	<b>1995</b>	<b>1997</b>	<b>1997</b>	<b>2000</b>	<b>2003</b>
<b>Country</b>	NAMIBIA	NIGER	UGANDA	CAR	DEMOCRATIC REPUBLIC OF CONGO	RWANDA
<b>Year established</b>	<b>1999</b>	<b>1999</b>	<b>2008</b>	<b>2000</b>	<b>2008</b>	<b>1998</b>
<b>Country</b>	SENEGAL	TANZANIA	TCHAD	ZAMBIA	ZANZIBAR	ZIMBABWE
<b>Year established</b>	<b>2007</b>	<b>1998</b>	<b>2000</b>	<b>2002</b>	<b>2003</b>	<b>2001</b>



- **Several** developed countries once introduced and **abolished** later their dedicated-road funds
- **Many** developing countries, particularly in Africa, have recently **established** dedicated-road funds.



# Road-Tolls

Direct usage-pay





### Road-toll systems - typical examples

	Italy	France	Spain	Japan	Korea	USA
Expressway length	6,594km (2010)	11,392km (2010)	14,021km (2009)	7,874km (2009)	3,863km (2010)	93,993km* (2008)
Percentage of section that collects toll	86%	75%	22%	100%	100%	7%
Beginning of Road-toll	1925	1955	1969	1952	1963	-
Company handling road-toll system	Concessioner	Concessioner	Concessioner	Public Company	Public company	BOD

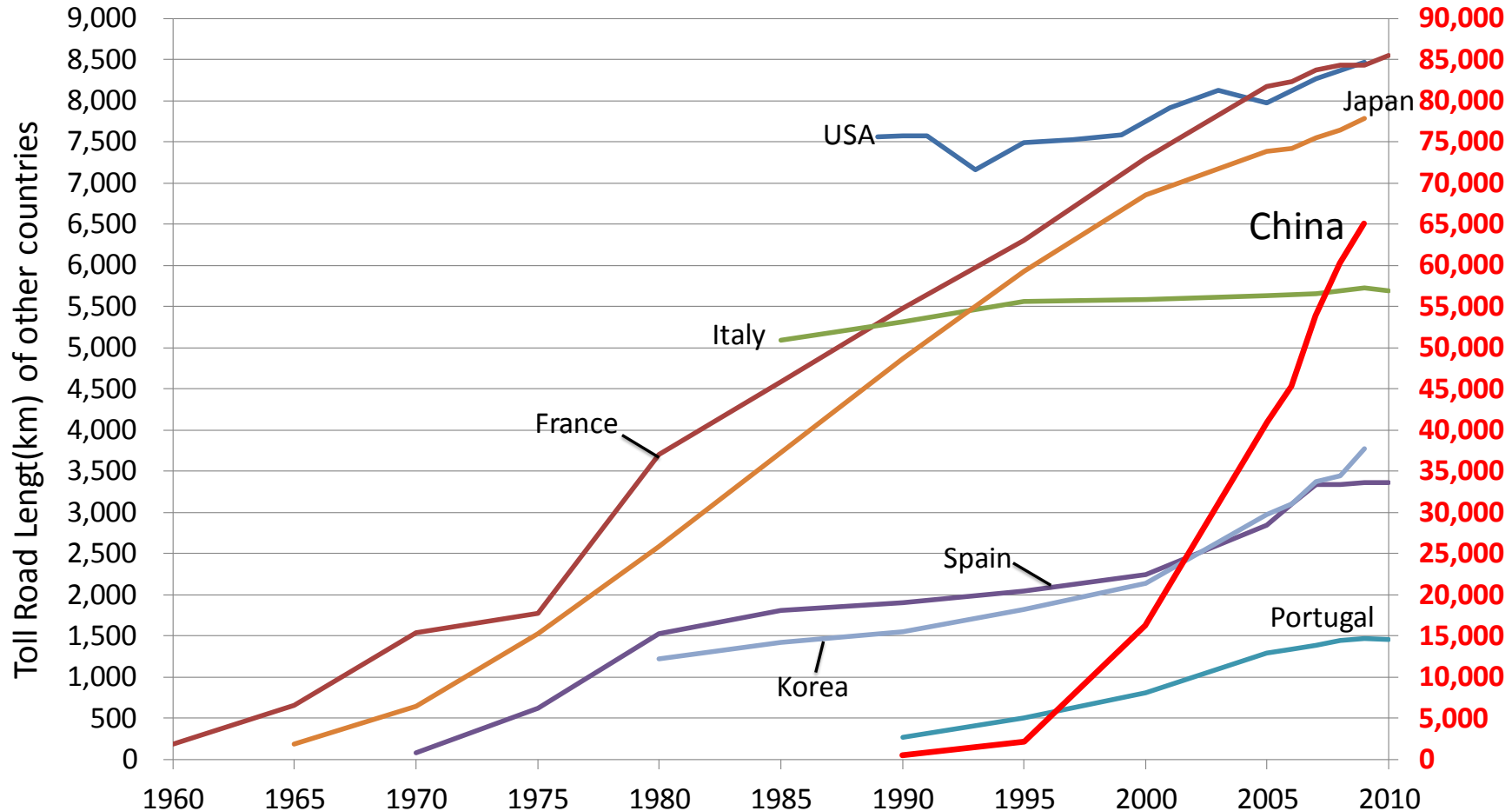
\*USA: Interstate, other freeways and expressways



## 7. Road-tolls

### Evolution of toll road length

For China





## **Charges on Heavy goods vehicles**

- Charging only heavy trucks
- Mostly adopted on already constructed free expressway.
- Introduced recently especially in many European countries



## Heavy Vehicles Tolling or levying in Europe

	Switzerland	Austria	Germany	Czech
Start Year	2001	2004	1995	2007
Targets	All Public Roads	Expressways and High-class highways	Most of Expressways and Part of Federal Highways	Parts of higher-class Roads
Use of Revenue	-1/3; Local States -2/3; Federal Government (Mainly dedicated to road investment)	-Construction, maintenance of targeted roads	-Mainly for transportation infrastructures -Construction of Federal Highways	-Transportation Infrastructure Improvements
Tolling system	Odometer+others	DSRC	GPS+Photo+others	DSRC



# Congestion Charge

Adopted in central city area

Main objective is to mitigate of the urban congestion and the improvement of environment.

Revenues are sometimes used for the improvement of traffic conditions.



### Congestion charging system

	<b>Singapore</b>	<b>London</b>	<b>Stockholm</b>
Started	1975	2003	2007
Section/Zone	City center(7.25km <sup>2</sup> )+ Outer Cordon and six expressways	Central London (22km <sup>2</sup> )	City center(35km <sup>2</sup> )
Type of vehicles	All vehicles	All vehicles	All vehicles inbound and outbound
Use of revenues	General budget	-Improvement of public transport and roads -Development of facilities for bicycle users and pedestrians	-Improvement of public transport -Construction of by- pass roads
Charging system	DSRC	CCTV	DSRC+CCTV



The circumstances are changing.

- The principal source of road funding is **still the general budget**.
- **Dedicated tax on fuels** as main funding resources for road works, now **becomes a minority** in developed countries.
- But recently, developing countries where the financial resources is insufficient even for minimal road maintenance, introduced **specific funding systems utilizing dedicated tax on fuels**.



- **Toll road systems** are increasing and developing, in a reflection of strong road investment needs and general budget deficit.
- Moreover, charging system other than traditional toll system such as **heavy vehicle charging** and **congestion charging** is also increasing.
- One of the background is the evolution of technology for charge collection system including ETC, GPS, DSRC, photo analysis, etc.





- In most countries, the funding sources for road works are **still insufficient**, although roads support all kinds of human activities including national economy to basic human needs.
- Also, mitigation of congestion in urban area and improvements of poor road condition in rural area contribute to **reduction of CO2 emissions**.
- Road users who pay much and concerned people who are trying to improve road service level **have the right to insist that those revenues should be used preferentially for improving roads**.



For a country  
to meet these challenges

through securing stable, reliable and  
adequate funding for the road network

is believing in the future of the country.

-from PIARC TC C1.2 Report 2007



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# Para Caminos Mas Buenos

**THANK YOU FOR YOUR ATTENTION**